

The informality in the claims noted by the Examiner has been corrected. Withdrawal of the objection is respectfully requested.

3. Claims 1, 2, 4 and 31-32 are rejected under 35 U.S.C. §102(e) as being anticipated by Takekoshi (USPN 6,120,199). Takekoshi teaches an inkjet apparatus comprising a printing head structured to discharge an ink onto a recording medium having a thermoplastic layer containing thermoplastic resin and an ink absorbing layer inner side of the thermoplastic layer, a heating and pressing device to heat and press the recording medium so as to make the thermoplastic layer transparent and a conveyor to convey the recording medium to the fixing unit. Takekoshi further teaches to control the temperature of the rollers in fixing within 100°C to 250°C. Takekoshi fails to teach “a recording head for a pigment ink to jet the pigment ink,” as recited in Claim 1. Therefore, Claim 1 is not anticipated by Takekoshi.

With respect to Claim 31, Takekoshi teaches a step of recording an image onto a recording medium having a thermoplastic layer containing thermoplastic resin and an ink absorbing layer inner side of the thermoplastic layer and a step of making the thermoplastic layer transparent by heating with a temperature of 100 to 200°C. Takekoshi fails to teach a step of “recording an image on the recording medium with a pigment ink,” as recited in Claim 31. Therefore, Claim 31 is not anticipated by Takekoshi.

In view of the foregoing, Claims 1 and 31 are patentably allowable over Takekoshi. Claims 2 and 4 depend from Claim 1 and are patentably allowable for at least the same reason.

Claim 32 depends from Claim 31 and is patentably allowable for at least the same reason.

Withdrawal of the rejection is respectfully requested.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi (USPN 6,120,199) in view of Iwao (USPN 6,390,617).

As indicated in paragraph 3, Claim 1 is patentably allowable over Takekoshi. Iwao does not cure the previously described deficiencies of Takekoshi with respect to Claim 1.

Accordingly, Claim1 is patentably allowable over Takekoshi in view of Iwao. Claim 7 depends from Claim 1 and is patentably allowable for at least the same reason. Withdrawal of the rejection is respectfully requested.

5. Claim 17-19 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi (USPN 6,120,199) in view of Kaburagi et al. (USPN 5,502,475). As indicated in paragraph 3, Claim 1 is patentable over Takekoshi. Kaburagi et al. do not cure the previously described deficiencies of Takekoshi with respect to Claim 1.

Accordingly, Claim1 is patentably allowable over Takekoshi in view of Kaburagi et al. Claims 17-19 and 22-23 depend, directly or indirectly, from Claim 1 and are patentably allowable for at least the same reason. Withdrawal of the rejection is respectfully requested.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi (USPN 6,120,199) in view of Kaburagi et al. (USPN 5,502,475) as applied to claims 1 and 19 above, further in view of Silverbrook (USPN 5,815,173). As indicated in paragraph 3, Claim 1

is patentably allowable over Takekoshi. Kaburagi et al. and Silverbrook do not cure the previously described deficiencies of Takekoshi with respect to Claim 1.

Accordingly, Claim 1 is patentably allowable over Takekoshi in view of Kaburagi et al. and further in view of Silverbrook. Claim 20 indirectly depends from Claim 1 and is patentably allowable for at least the same reason. Withdrawal of the rejection is respectfully requested.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takekoshi (USPN 6,120,199) in view of Kaburagi et al. (USPN 5,502,475) as applied to claims 1 and 19 above, further in view of Nakano et al. (USPN 6,012,794). As indicated in paragraph 3, Claim 1 is patentably allowable over Takekoshi. Kaburagi et al. and Nakano et al. do not cure the previously described deficiencies of Takekoshi with respect to Claim 1.

Accordingly, Claim 1 is patentably allowable over Takekoshi in view of Kaburagi et al. further in view of Nakano et al. Claim 21 indirectly depends from Claim 1 and is patentably allowable for at least the same reason. Withdrawal of the rejection is respectfully requested.

As indicated above, generic Claims 1 and 31 are patentably allowable; therefore, allowance for all of the claims, including Claims 5, 6, 9-16 , and 24-30 drawn to species of the generic claims, are also respectfully requested.

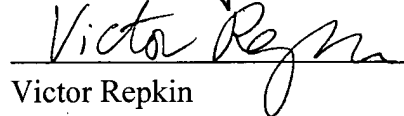
CONCLUSION

Claims 1-37 are pending in this application. Examination and allowance of the claims are respectfully requested. If the Examiner has any questions or concerns, the Examiner is invited to telephone the undersigned at (415) 954-0349.

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Version With Markings to Show Changes Made

In the Claims:

Please amend claims as indicated below. The italicized claims are the remaining claims which have not been amended and are provided for the Examiner's reading convenience.

1. (Amended) An inkjet recording apparatus, comprising:

a recording head for a pigment ink to [conduct recording by jetting] jet the pigment [an] ink onto a recording medium having an ink receiving layer containing thermoplastic resin particles on a surface thereof and a pigment ink solvent absorbing layer adjoining to an inner side of the ink receiving layer;

a heating and pressing device to heat and press the recording medium recorded by the recording head so as to make the ink receiving layer of the recording medium [to be] transparent;

a conveyor to convey the recording medium [to the recording head and further] recorded by the recording head to the heating and pressing device; and

a temperature controller to control a heating temperature by the heating and pressing device within a range of $T_0 \pm \Delta T^\circ\text{C}$, where T_0 is 50 to 150 $^\circ\text{C}$ and $\Delta T^\circ\text{C}$ is not larger than 10 $^\circ\text{C}$.

2. *The inkjet recording apparatus of claim 1, wherein T_0 is 80 to 130 $^\circ\text{C}$.*

3. (Amended) The inkjet recording apparatus of claim 1, wherein the inkjet recording apparatus is adapted to record an image on one of plural kinds of recording medium [and the heating and pressing device changes], the inkjet recording apparatus further comprises a CPU which controls the heating and pressing device so as to change a heating and pressing time period in accordance with the kind of the recording medium.

change heating time
change heating temp

4. (Amended) The inkjet recording apparatus of claim 1, wherein the inkjet recording apparatus is adapted to record an image on one of plural kinds of recording medium and the temperature controller [changes] controls the heating temperature by the heating and pressing device in accordance with the kind of the recording medium.

5. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises a belt member stretched around at least two rollers and a roller coming in contact with the belt member so as to form a nip section therebetween where the recording medium passes through.*

6. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises two belt members each stretched around at least two rollers and the two belt members come in contact with each other so as to form a nip section therebetween where the recording medium passes through.*

7. (Amended) The inkjet recording apparatus of claim 1, wherein the heating and pressing device [presses] is constructed to press the recording medium with a pressing force of 9.8×10^4 to 4.9×10^6 Pa.

8. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a cleaning member to clean the recording medium contacting surface.*

9. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a transfer preventing liquid providing member to provide the recording medium contacting surface with a transfer preventing liquid to prevent a part of the recording medium or an ink from transferring to the recording medium contacting surface.*

10. *The inkjet recording apparatus of claim 9, wherein the transfer preventing liquid contains a silicone oil.*

11. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a transfer preventing liquid providing member to provide the recording medium contacting surface with a transfer preventing liquid to prevent a part of the recording medium or an ink from transferring to the recording medium contacting surface before heating and pressing the*

recording medium after the recording head has conducted recording on the recording medium.

12. The inkjet recording apparatus of claim 1, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a glossing liquid providing member to provide a glossing liquid onto the recording medium contacting surface.

13. The inkjet recording apparatus of claim 12, wherein the inkjet recording apparatus is adapted to record an image on one of plural kinds of recording medium and the a glossing liquid providing member comprises a control section to control whether or not to provide the glossing liquid in accordance with the kind of the recording medium.

14. The inkjet recording apparatus of claim 12, wherein the inkjet recording apparatus is adapted to record an image on one of plural kinds of recording medium and the a glossing liquid providing member comprises a selecting section to select whether or not to provide the glossing liquid.

15. The inkjet recording apparatus of claim 12, wherein the glossing liquid contains a silicone oil.

16. The inkjet recording apparatus of claim 1, further comprising a glossing liquid providing member to provide a glossing liquid onto the recording medium after the recording head has conducted recording on the recording medium.

17. (Amended) The inkjet recording apparatus of claim 1 further comprising a CPU, wherein when the CPU controls the inkjet recording apparatus so as [does] not to conduct recording during a predetermined time period, the temperature controller stops controlling the heating temperature such that the heating and pressing device stops heat generation.

18. (Amended) The inkjet recording apparatus of claim 17, wherein when the temperature controller resumes controlling the heating temperature after the temperature controller stopped the controlling, the temperature controller controls the heating and pressing device so as to conduct heating and pressing by prolong relatively a heating and pressing time period after the

w/o print
stop heat

preheating 12

heating temperature becomes higher than a lowest heating temperature and until the heating temperature becomes within a predetermined temperature range.

19. (Amended) The inkjet recording apparatus of claim 18, wherein when the temperature controller controls the heating and pressing device so as to prolong [prolongs] the heating and pressing time period for the recording medium, the CPU controls the recording head so as to prolong [prolongs] relatively a recording time period per a unit length of the recording medium in a conveying direction of the recording medium.

20. (Amended) The inkjet recording apparatus of claim 19, [wherein the recording head scans] further comprising a carriage motor for moving the recording head so as to scan on the recording [sheet] medium forwardly and backwardly in a direction perpendicular to the conveying direction of the recording medium, and wherein [the recording head prolongs] the CPU controls the carriage motor so as to prolong the recording time period by adjusting a stop time at which a scanning direction is changed.

21. (Amended) The inkjet recording apparatus of claim 19, wherein the recording head comprises [is] a line head having a length corresponding to a width of the recording medium, and wherein [the recording head prolongs] the CPU controls the recording head so as to prolong the recording time period by adjusting a ink jetting time interval.

22. (Amended) The inkjet recording apparatus of claim 1 further comprising a CPU, wherein when the CPU controls the inkjet recording apparatus so as [does] not to conduct recording during a predetermined time period, the temperature controller controls such that the heating and pressing device keeps the heating temperature within a second temperature lower than the range.

23. (Amended) The inkjet recording apparatus of claim 1 further comprising a CPU, wherein when the CPU controls the inkjet recording apparatus so as [does] not to conduct recording during a predetermined time period, the temperature controller controls such that the heating and pressing device keeps the heating temperature within a second temperature lower

than the range, and further when the CPU controls the inkjet recording apparatus [does] so as not to conduct recording during a predetermined another time period, the temperature controller stops controlling the heating temperature such that the heating and pressing device stops heat generation.

24. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises a heating roller, a driven roller, a heating belt stretched around the heating roller and the driven roller, a pressing roller provided opposite to the heating roller, and a pressing member provided downstream in a conveying direction from the pressing roller and to press the recording medium.*

25. *The inkjet recording apparatus of claim 24, wherein the heating belt is an endless belt whose surface roughness is $0.01\ \mu\text{m}$ to $0.5\ \mu\text{m}$.*

26. *The inkjet recording apparatus of claim 24, wherein the pressing member is a plate.*

27. *The inkjet recording apparatus of claim 1, wherein the heating and pressing device comprises a heating roller, a driven roller, a heating belt stretched around the heating roller and the driven roller, a pressing roller provided opposite to the heating roller, and a pressing belt to press the heating belt.*

28. *The inkjet recording apparatus of claim 27, wherein the heating belt and the pressing belt come in contact with each other.*

29. *The inkjet recording apparatus of claim 27, wherein the heating belt has a surface roughness of $0.01\ \mu\text{m}$ to $0.5\ \mu\text{m}$.*

30. *The inkjet recording apparatus of claim 27, wherein when the conveyor conveys the recording medium through the heating and pressing device, the heating and pressing device comes in contact with the recording medium for a contact time of 3 to 15 seconds.*

31. (Amended) An [A] inkjet recording method of recording an image on a recording medium having an ink receiving layer containing thermoplastic resin particles on a surface thereof and a pigment ink solvent absorbing layer adjoining to an inner side of the ink receiving

layer, comprising [steps of]:

recording an image on the recording medium with a pigment ink; and
making the ink receiving layer [to be] transparent by heating and pressing the recording medium recorded the image with a heating temperature of $T_0 \pm \Delta T^\circ\text{C}$, where T_0 is 50 to 150°C and ΔT is not larger than 10°C .

32. *The inkjet recording method of claim 31, wherein T_0 is 80 to 130°C .* ✓

Please add the following Claims:

--33. (New) An inkjet recording apparatus, comprising:

a recording head for a pigment ink, to jet a pigment ink onto a recording medium having an ink receiving layer containing thermoplastic resin particles on a surface thereof and a pigment ink solvent absorbing layer adjoining to an inner side of the ink receiving layer;

a heating and pressing device to heat and press the recording medium recorded by the recording head with pressing force of 9.8×10^4 to 4.9×10^6 Pa so as to make the ink receiving layer of the recording medium transparent;

a conveyor to convey the recording medium recorded by the recording head to the heating and pressing device; and

a temperature controller to control a heating temperature by the heating and pressing device within a range of $T_0 \pm \Delta T^\circ\text{C}$, where T_0 is 50 to 150°C and $\Delta T^\circ\text{C}$ is not larger than 10°C .--

--34. (New) The inkjet recording apparatus of claim 33, wherein the heating and pressing device comprises a belt member stretched around at least two rollers and a roller coming in contact with the belt member so as to form a nip section therebetween where the recording medium passes through.--

--35. (New) The inkjet recording apparatus of claim 34, wherein the heating and pressing device comprises two belt members each stretched around at least two rollers and the two belt members come in contact with each other so as to form a nip section therebetween where the

recording medium passes through. --

--36. (New) The inkjet recording apparatus of claim 33, wherein the heating and pressing device has a recording medium contacting surface to contact the recording medium and comprises a cleaning member to clean the recording medium contacting surface.- -

--37. (New) The inkjet recording apparatus of claim 33, wherein the belt member is provided so that the belt member comes in contact with the thermoplastic resin particles of the recording medium at the nip section and the recording medium is conveyed inside of the heating and pressing device with the state that the thermoplastic resin particles are in contact with the belt member.--